

6 decoding and processing said real-time, pixel-by-pixel subpicture display
7 control commands in order to extract subpicture display control command information
8 therefrom;
9 processing said subpicture pixel data in conjunction with said subpicture
10 display control command information to generate said subpicture display information.

REMARKS

STATUS OF THE APPLICATION

Prior to this amendment, claims 1-33 were pending in this application. Claims 1-8, 11-23 and 27-30 were rejected under 35 U.S.C. §102(b) as being anticipated by Kitamura et al. (U.S. Patent No. 5,758,007); and claims 8-10, 24-26, and 31-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kitamura in view of Gadre et al. (U.S. Patent No. 5,995,161).

Applicants have amended claims 1, 16, 28, and 32-33, and canceled claim 31. Claims 1-30 and 32-33 remain pending in this application.

THE CLAIMS

Claim Rejections Under 35 U.S.C. §102(b):

Claims 1-8, 11-23 and 27-30 were rejected under 35 U.S.C. §102(b) as being anticipated by Kitamura et al. (U.S. Patent No. 5,758,007). Applicants respectfully traverse these rejections. However, for purposes of compact prosecution, Applicants have amended the claims to further clarify Applicants' invention.

For example, claim 1 now recites, *inter alia*:

“1. A system for decoding and processing a subpicture data stream . . .

at least one processing unit for receiving the subpicture data stream and for processing software programmed to perform at least some subpicture data stream decoding and subpicture display control command execution; and

a subpicture hardware unit configured to receive said subpicture pixel data stream, subpicture display control information extracted from a subpicture display control command executed by said at least one processing unit, and subpicture display control commands not executed by said at least one processing unit, and execute the subpicture display control commands not executed by said at least one processing unit, and generate subpicture display information for communication to a DVD video display unit. (emphasis added).

Claim 16, while not having the same scope as claim 1, does include similar limitations.

Applicant's submit that Kitamura does not teach or disclose all the limitations in the amended claims 1 or 16. Specifically, Kitamura teaches a system having a general processor 112 and a hardware decoding unit 101, but nowhere does Kitamura teach a system where some subpicture display control commands are executed by software in the processor, while other subpicture display control commands are executed by the hardware unit. Kitamura simply does not teach this bifurcation of execution of subpicture display control commands. Accordingly, claims 1, and 16 are patentable over the cited reference.

With respect to claim 28, it now recited, *inter alia*:

"... a method for decoding and processing a subpicture data stream . . .

. . . said at least one processing unit decoding and executing non-pixel-by-pixel subpicture display control commands . .

. . . said subpicture hardware unit decoding and executing said real-time, pixel-by-pixel display control commands . . .

. . . the subpicture hardware unit generating subpicture display information using the subpicture pixel data, the non-pixel-by-pixel subpicture display control information, and the real-time, pixel-by-pixel subpicture display control information and presenting said subpicture display information to a DVD video display unit."

As discussed above, Kitamura simply does not teach or disclose these limitations, and thus, claim 28 is allowable over Kitamura and the other cited references.

Claims 2-8, 11-15, 16-23, 27, and 29-30 all depend from allowable independent claims 1, 16 or 28, and thus, are allowable as being directed to specific novel substitutes as well as by depending from allowable parent claims.

Claim Rejections Under 35 U.S.C. §103(a):

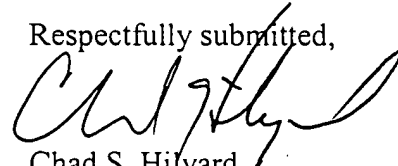
Claims 8-10, 24-26, and 31-33 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kitamura in view of Gadre et al. (U.S. Patent No. 5,995,161). Applicants respectfully disagree with the Examiner's rejection, and therefore, traverses the rejection. However, in view of the amendments to claims 1, 16, and 28, Applicants submit that the claims now are allowable as being directed to specific novel substitutes as well as by depending from allowable parent claims.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,



Chad S. Hilyard
Reg. No. 40,647

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: (415) 576-0200
Fax: (415) 576-0300
CSH:nlm

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

1. (Amended) [In a system for processing and displaying a DVD-video data stream, a] A system for decoding and processing a subpicture data stream which comprises a subpicture pixel data stream, and a subpicture display control data stream, said subpicture display control data stream comprising one or more subpicture display control commands, one or more of said subpicture display control commands comprising subpicture display control information, said system comprising:

at least one processing unit for receiving the subpicture data stream and
for processing software programmed to perform at least some subpicture data stream decoding and subpicture display control command execution; and

a subpicture hardware unit configured to receive said subpicture pixel data stream, [and] subpicture display control information extracted from a subpicture display control command executed by said at least one processing unit, and subpicture display control commands not executed by said at least one processing unit, and execute the subpicture display control commands not executed by said at least one processing unit,
and generate subpicture display information [which is presented] for communication to a DVD video display unit.

1
2
3
4
5
6
7
8

16. (Amended) In a system for processing [and displaying] a DVD-video data stream, a method for decoding and processing a subpicture data stream which comprises a subpicture pixel data stream, and a subpicture display control data stream, said subpicture display control data stream comprising one or more subpicture display control commands, one or more of said subpicture display control commands comprising subpicture display control information, said method comprising the steps of:

at least one processing unit receiving and decoding said subpicture data stream and executing one or more subpicture display control commands; and

9 a subpicture hardware unit receiving said subpicture pixel data stream,
10 [and] subpicture display control information extracted from a subpicture display control
11 command executed by said at least one processing unit, and subpicture display control
12 commands not executed by said at least one processing unit;[, and]
13 the subpicture hardware unit executing the subpicture display control
14 commands not executed by said at least one processing unit;
15 the subpicture hardware unit generating subpicture display information
16 and presenting said subpicture display information to a DVD video display unit.

1 28. (Amended) In a system for processing [and displaying] a DVD-
2 video data stream, a method for decoding and processing a subpicture data stream which
3 comprises a subpicture pixel data stream, and a subpicture display control data stream,
4 said subpicture display control data stream comprising one or more subpicture display
5 control commands, one or more of said subpicture display control commands comprising
6 subpicture display control information, said method comprising the steps of:
7 at least one processing unit extracing subpicture data packs from a DVD-
8 video data stream;
9 said at least one processing unit extracting said subpicture pixel data
10 stream and said subpicture display control data stream from said subpicture packs;
11 said at least one processing unit parsing the subpicture display control data
12 stream and extracting subpicture display control commands therefrom;
13 said at least one processing unit decoding and executing non-pixel-by-
14 pixel subpicture display control commands by extracting non-pixel-by-pixel subpicture
15 display control information therefrom and transmitting said non-pixel-by-pixel subpicture
16 display control information and the subpicture pixel data from said subpicture pixel data
17 stream to a subpicture hardware unit for processing; [and]
18 said at least one processing unit transmitting real-time, pixel-by-pixel
19 subpicture display control commands to said subpicture hardware unit;

20 said subpicture hardware unit decoding and executing said real-time,
21 pixel-by-pixel display control commands by extracting real-time, pixel-by-pixel
22 subpicture display control information therefrom;
23 said subpicture hardware unit receiving said subpicture pixel data, and the
24 non-pixel-by-pixel subpicture display control information; **[extracted from a subpicture**
25 **display control command]** and
26 the subpicture hardware unit generating subpicture display information
27 using the subpicture pixel data, the non-pixel-by-pixel subpicture display control
28 information, and the real-time, pixel-by-pixel subpicture display control information and
29 presenting said subpicture display information to a DVD video display unit.

1 31. Please cancel without prejudice.

1 32. (Amended) The method as recited in claim 28 [31], wherein said
2 step of said subpicture hardware unit processing real time, pixel-by-pixel subpicture
3 display control commands comprises processing a change color/contrast subpicture
4 display control command (CHG_COLCON).

1 33 (Amended) The method as recited in claim 28 [31], wherein said
2 step of said subpicture hardware unit processing real time, pixel-by-pixel subpicture
3 display control commands further comprises the steps of:
4 said subpicture hardware unit receiving subpicture pixel data and said real-
5 time, pixel-by-pixel subpicture display control commands;
6 decoding and processing said real-time, pixel-by-pixel subpicture display
7 control commands in order to extract subpicture display control command information
8 therefrom;
9 processing said subpicture pixel data in conjunction with said subpicture
10 display control command information to generate said subpicture display information.